

IN THE CLAIMS:

Claims 1-63 (Cancelled).

64. (Currently Amended) A roofing or siding system having an average resulting reflectivity of about 50-95% comprising a roofing or siding material having an adhering surface on which ~~a plurality of~~ non-coated granules are at least partially secured a top surface thereto, said adhering surface including asphalt, bitumen, foam, adhesive, or combinations thereof, a ~~plurality~~ majority of said non-coated granules being partially embedded in said top surface of said adhering surface, said non-coated granules covering over about 95% of said top surface of said adhering surface, said non-coated granules having a generally white color and an average reflectivity of at least about 55-99.9%, an average hardness of over about 4 Moh's, an average opacity of at least about 60%, and an average porosity of about 0-15%, ~~a plurality of~~ said non-coated granules ~~include~~ including silicon dioxide and at least about 45 weight percent aluminum oxide such that the silicon oxide plus aluminum oxide content is at least about 80 weight percent and having a weight percent ratio of aluminum oxide to silicon dioxide of about 0.8-10:1.

65. (Currently Amended) The roofing or siding system as defined in claim 64, wherein at least two different sized non-coated granules are partially embedded in said top surface of said adhering surface, said first size of non-coated granules having an average particle size that is greater than an average particle size of second sized non-coated granules, a size ratio of said first sized non-coated granules to said second sized non-coated granules is at least about 1.3:1.

66. (Currently Amended) The roofing or siding system as defined in claim 64, wherein

a plurality of said non-coated granules comprise:

| | |
|-------------------------|----------------------------------|
| Al_2O_3 | at least about 45 weight percent |
| SiO_2 | up to about 54 weight percent |
| Fe_2O_3 | up to about 0.5 weight percent |
| CaO | up to about 0.1 weight percent |
| MgO | up to about 0.1 weight percent |
| TiO_2 | up to about 0.8 weight percent |
| Na_2O | up to about 0.05 weight percent |
| K_2O | up to about 0.03 weight percent. |

67. (Currently Amended) The roofing or siding system as defined in claim 65, wherein

a plurality of said non-coated granules comprise:

| | |
|-------------------------|----------------------------------|
| Al_2O_3 | at least about 45 weight percent |
| SiO_2 | up to about 54 weight percent |
| Fe_2O_3 | up to about 0.5 weight percent |
| CaO | up to about 0.1 weight percent |
| MgO | up to about 0.1 weight percent |
| TiO_2 | up to about 0.8 weight percent |
| Na_2O | up to about 0.05 weight percent |
| K_2O | up to about 0.03 weight percent. |

68. (Currently Amended) The roofing or siding system as defined in claim 66, wherein

a plurality of said non-coated granules comprise:

| | |
|--|---------------------------------|
| Al_2O_3 | about 45 - 74 weight percent |
| SiO_2 | about 20 - 52 weight percent |
| Fe_2O_3 | about 0.3 - 1.3 weight percent |
| CaO | up to about 0.1 weight percent |
| MgO | up to about 0.1 weight percent |
| TiO_2 | up to about 3 weight percent |
| $\text{Na}_2\text{O} + \text{K}_2\text{O}$ | up to about 0.65 weight percent |

69. (Currently Amended) The roofing or siding system as defined in claim 67, wherein

a plurality of said non-coated granules comprise:

| | |
|-------------------------|------------------------------|
| Al_2O_3 | about 45 - 74 weight percent |
|-------------------------|------------------------------|

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| | |
|--------------------------------------|---------------------------------|
| SiO ₂ | about 20 - 52 weight percent |
| Fe ₂ O ₃ | about 0.3 - 1.3 weight percent |
| CaO | up to about 0.1 weight percent |
| MgO | up to about 0.1 weight percent |
| TiO ₂ | up to about 3 weight percent |
| Na ₂ O + K ₂ O | up to about 0.65 weight percent |

70. (Currently Amended) The roofing or siding system as defined in claim 64, wherein said non-coated granules cover over about 98% of said top surface of said adhering surface.

71. (Currently Amended) The roofing or siding system as defined in claim 69, wherein said non-coated granules cover over about 98% of said top surface of said adhering surface.

72. (Currently Amended) The roofing or siding system as defined in claim 64, wherein said roofing or siding material includes a composite fabric.

73. (Currently Amended) The roofing or siding system as defined in claim 71, wherein said roofing or siding material includes a composite fabric.

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74. (Currently Amended) A roofing or siding system having an average resulting reflectivity of about 50-95% comprising a roofing or siding material having an adhering surface on which ~~a plurality of~~ non-coated granules are at least partially secured a top surface thereto, said adhering surface including asphalt, bitumen, foam, adhesive, or combinations thereof, a ~~plurality~~ majority of said non-coated granules being partially embedded in said top surface of said adhering surface, said non-coated granules covering over about 95% of said top surface of said adhering surface, said non-coated granules having a generally white color and an average reflectivity of at

least about 55-99.9%, an average hardness of over about 4 Moh's, an average opacity of at least about 60%, and an average porosity of about 0-15%, ~~a plurality of said non-coated granules include~~
10 including silicon dioxide and at least about 94 weight percent aluminum oxide and having a weight percent ratio of aluminum oxide to silicon dioxide of about 15-8000:1.

75. (Currently Amended) The roofing or siding system as defined in claim 74, wherein at least two different sized non-coated granules are partially embedded in said top surface of said adhering surface, said first size of non-coated granules having an average particle size that is greater than an average particle size of second sized non-coated granules, a size ratio of said first sized non-
5 coated granules to said second sized non-coated granules is at least about 1.3:1.

76. (Currently Amended) The roofing or siding system as defined in claim 74, wherein ~~a plurality of~~ said non-coated granules comprise:

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|--------------------------------|----------------------------------|
| Al ₂ O ₃ | at least about 94 weight percent |
| SiO ₂ | up to about 0.1 weight percent |
| Fe ₂ O ₃ | up to about 0.15 weight percent |
| CaO | up to about 0.12 weight percent |
| Na ₂ O | up to about 0.35 weight percent |

77. (Currently Amended) The roofing or siding system as defined in claim 75, wherein ~~a plurality of~~ said non-coated granules comprise:

| | |
|--------------------------------|----------------------------------|
| Al ₂ O ₃ | at least about 94 weight percent |
| SiO ₂ | up to about 0.1 weight percent |
| Fe ₂ O ₃ | up to about 0.15 weight percent |
| CaO | up to about 0.12 weight percent |
| Na ₂ O | up to about 0.35 weight percent |

78. (Currently Amended) The roofing or siding system as defined in claim 76, wherein

a plurality of said non-coated granules comprise:

| | |
|--------------------------------|----------------------------------|
| Al ₂ O ₃ | at least about 99 weight percent |
| SiO ₂ | up to about 0.1 weight percent |
| Fe ₂ O ₃ | up to about 0.15 weight percent |
| CaO | up to about 0.12 weight percent |
| Na ₂ O | up to about 0.35 weight percent |

79. (Currently Amended) The roofing or siding system as defined in claim 77, wherein

a plurality of said non-coated granules comprise:

| | |
|--------------------------------|----------------------------------|
| Al ₂ O ₃ | at least about 99 weight percent |
| SiO ₂ | up to about 0.1 weight percent |
| Fe ₂ O ₃ | up to about 0.15 weight percent |
| CaO | up to about 0.12 weight percent |
| Na ₂ O | up to about 0.35 weight percent |

80. (Currently Amended) The roofing or siding system as defined in claim 74, wherein
said non-coated granules cover over about 98% of said top surface of said adhering surface.

81. (Currently Amended) The roofing or siding system as defined in claim 79, wherein
said non-coated granules cover over about 98% of said top surface of said adhering surface.

82. (Currently Amended) The roofing or siding system as defined in claim 74, wherein
said roofing or siding material includes a composite fabric.

83. (Currently Amended) The roofing or siding system as defined in claim 81, wherein
said roofing or siding material includes a composite fabric.

84. (Currently Amended) A roofing or siding system having an average resulting

reflectivity of about 50-95% comprising a roofing or siding material having an adhering surface on which ~~a plurality of~~ non-coated granules are at least partially secured a top surface thereto, said adhering surface including asphalt, bitumen, foam, adhesive, or combinations thereof, a ~~plurality~~ majority of said non-coated granules being partially embedded in said top surface of said adhering surface, said non-coated granules covering over about 95% of said top surface of said adhering surface, said non-coated granules having a generally white color and an average reflectivity of at least about 55-99.9%, an average hardness of over about 4 Moh's, an average opacity of at least about 60%, and an average porosity of about 0-15%, a ~~plurality~~ majority of said non-coated granules ~~include~~ consist of crushed porcelain, said crushed porcelain including silicon dioxide and at least about 25 weight percent aluminum oxide and having a weight percent ratio of aluminum oxide to silicon dioxide of at least about 0.2:1.

85. (Currently Amended) The roofing or siding system as defined in claim 84, wherein at least two different sized non-coated granules are partially embedded in said top surface of said adhering surface, said first size of non-coated granules having an average particle size that is greater than an average particle size of second sized non-coated granules, a size ratio of said first sized non-coated granules to said second sized non-coated granules is at least about 1.3:1.

86. (Currently Amended) The roofing or siding system as defined in claim 84, wherein said crushed porcelain having a weight percent ratio of aluminum oxide to silicon dioxide of at least about 0.25-2:1 and a weight percent of aluminum oxide plus and silicon dioxide of at least about 75%.

87. (Currently Amended) The roofing or siding system as defined in claim 85, wherein

said crushed porcelain having a weight percent ratio of aluminum oxide to silicon dioxide of at least about 0.25-2:1 and a weight percent of aluminum oxide plus and silicon dioxide of at least about 75%.

88. (Currently Amended) The roofing or siding system as defined in claim 86, wherein said crushed porcelain having a weight percent ratio of aluminum oxide to silicon dioxide of at least about 0.25-1:1 and a weight percent of aluminum oxide plus and silicon dioxide of at least about 85%.

89. (Currently Amended) The roofing or siding system as defined in claim 87, wherein said crushed porcelain having a weight percent ratio of aluminum oxide to silicon dioxide of at least about 0.25-1:1 and a weight percent of aluminum oxide plus and silicon dioxide of at least about 85%.

90. (Currently Amended) The roofing or siding system as defined in claim 84, wherein said non-coated granules cover over about 98% of said top surface of said adhering surface.

91. (Currently Amended) The roofing or siding system as defined in claim 89, wherein said non-coated granules cover over about 98% of said top surface of said adhering surface.

92. (Currently Amended) The roofing or siding system as defined in claim 84, wherein said roofing or siding material includes a composite fabric.

93. (Currently Amended) The roofing or siding system as defined in claim 91, wherein

said roofing or siding material includes a composite fabric.

94. (Currently Amended) A roofing or siding system having an average resulting reflectivity of about 45-99% comprising a roofing or siding substrate coated with adhering material, said roofing or siding substrate including a composite fabric, said adhering material including a top surface on which a ~~plurality~~ majority of non-coated granules are partially embedded in and secured thereto, said adhering material including asphalt, bitumen, or combinations thereof, said non-coated granules covering over about 95% of said top surface of said adhering material, said non-coated granules having a generally white color and an average reflectivity of about 55-99.9% and an average hardness of at least about 4 Moh's hardness, said non-coated granules including silicon dioxide and at least about 45 weight percent aluminum oxide, said silicon dioxide of said silicon dioxide plus said weight percent of said aluminum dioxide at least about 74 weight percent of said non-coated granules, said non-coated granules having an average opacity of at least about 55%, and an average porosity of less than about 20%.

95. (Currently Amended) The roofing or siding system as defined in claim 94, wherein at least two different sized non-coated granules are partially embedded in said top surface of said adhering material, said first size of non-coated granules having an average particle size that is greater than an average particle size of second sized non-coated granules, a size ratio of said first sized non-coated granules to said second sized non-coated granules is at least about 1.3:1.

96. (Currently Amended) The roofing ~~and/or~~ siding system as defined in claim 95, wherein said non-coated granules cover over 98% of said top surface of said adhering material.